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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,594	11/13/2003	Lawrence J. Karr	50037.0065USD1	1987

7590 03/08/2006

Attention: Joshua W. Korver
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EXAMINER

NGUYEN, DUC M

ART UNIT	PAPER NUMBER
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2600

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/713,594	KARR ET AL.	
	Examiner	Art Unit	
	Duc M. Nguyen	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 and 44-53 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2-11 and 44-53 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **2-5, 7-10, 44-51** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Lorang et al** in view of **Chadwick (US 5,168,271)**.

Regarding claim **44**, **Lorang** discloses a localcast transmitter included in a mobile device, wherein the mobile device includes a localcast mode and a broadcast mode (see Fig. 11, col. 12, lines 42-46, 64-66), comprising:

- means for interfacing with a data source (see Fig. 2, col. 5, line 50 – col. 6, line 25)
- means for encoding data for transmission (see Fig. 10 regarding the TX path, protocol control 354 and protocol processor 356 which would implicitly disclose an encoder as disclosed by **Chadwick** in Fig. 2);
- means for transmitting the encoded data over a locally-unused FM frequency when the mobile is in the localcast mode (see col. 10, line 61-64, col. 12, lines 44-46).

Here, although **Lorang** is silent on a locally-unused FM frequency, it is noted that since **Lorang** suggests using standard paging FM architecture for communication, and

since the standard paging FM architecture uses FM subcarrier signals for modulation, it is clear that **Lorang** would obviously suggest FM subcarrier signals as disclosed by **Chadwick** (see Fig. 2), and whereas when communicating in locast mode, the used frequency would be a locally-unused portion of an FM band in order to prevent interferences with FM subcarrier signals broadcasted in the broadcast mode.

Therefore, it would have to one skilled in the art at the time the invention was made to modify **Lorang** to incorporate an encoder and FM subcarrier signals for modulation as taught by **Chadwick**, utilizing advantages of FM subcarrier communication protocol such as low power transmission.

Regarding claim **45**, it is clear that **Lorang** would disclose a controller for collecting data (see col. 6, lines 22-25), set a desired transmission frequency (see col. 6, lines 15-20), set a desired transmission mode (i.e, localcast mode or broadcast mode), and signal power (see col. 9, lines 40-43 regarding low power and high power) as claimed.

Regarding claim **46**, **Lorang** as modified would disclose means for formatting data into baseband samples as claimed (see **Chadwick**, Fig. 2 and col. 6, lines 8-10).

Regarding claim **47**, **Lorang** as modified would disclose means to add correlation information for synchronization as claimed (see **Chadwick**, Fig. 2, and col. 5, lines 37-60).

Regarding claim **48**, **Lorang** as modified would disclose means for interleaving data into segments as claimed (see **Chadwick**, Fig. 2, and col. 5, lines 7-35).

Regarding claim **49**, **Lorang** as modified would disclose means for modulation as claimed (see Chadwick, Fig. 2, and col. 6, lines 8-22).

Regarding claim **50**, the claim is interpreted and rejected for the same reason as set forth in claims 44-49 above.

Regarding claim **51**, it is rejected for the same reason as set forth in claim 50 above. In addition, since user interfaces as recited in the claim is well known in the art (Official Notice), it would have been obvious to one skilled in the art at the time the invention was made to modify Lorang and Chadwick to utilize at least one interface as claimed, for conforming a standard so that it can be accepted in global use.

Regarding claim **2**, it is rejected for the same reason as set forth in claim 50 above, wherein the "interleaver 116" and the "frame+sync. 120" in Fig. 2 of Chadwick would read on the "packet assembler" in accordance with the specification description.

Regarding claim **3**, **Lorang** discloses a data source for local area transmission (see col. 6, lines 22-25).

Regarding claim **4**, the "interface" limitation is rejected for the same reason as set forth in claim 51 above.

Regarding claim **5**, the "handshaking function" limitation is rejected for the same reason as set forth in claim 47 above regarding the "synchronization".

Regarding claim **7**, **Chadwick** discloses a packet assembler as claimed (see col. 5, lines 7-60 regarding interleaver and 56-bit correlation word).

Regarding claim **8**, **Lorang** as modified would disclose "locally-unused portion of the FM band" for the same reason as set forth in claim 44 above.

Regarding claim **9**, **Lorang** discloses a data source is further comprised of a personal computer system (see Fig. 11, ref. 48).

Regarding claim **10**, it is rejected for the same reason as set forth in claim 2 above. In addition, **Chadwick** discloses a convolution coder in place of the RS coder (see col. 4, lines 36-57), wherein the FEC codes would read on "system information".

3. Claims **6**, **11**, **52**, **53** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Lorang** in view of **Chadwick** and further in view of **Cameron** (US 2002/0051499).

Regarding claim **6**, **Lorang** and **Chadwick** as modified fails to disclose a second encoder. However, **Cameron** discloses an encoder which comprises a RS coder and a turbo coder (see Fig. 2 and [0091]). Since **Chadwick** discloses a RS coder (see Chadwick, col. 4, lines 36-57), one skilled in the art would recognize the benefit of the turbo coder in Camaron to further modify **Lorang** and **Chadwick** by incorporating the turbo coder as a second encoder in the encoder in **Lorang** and **Chadwick** as well, for increasing the redundancy of data coding with the second encoder, thereby improving the error correction rate (reliability) of the decoder at the receiver.

Regarding claim **11**, it is rejected for the same reason as set forth in claim 10 above, wherein it is well known in the art that the Turbo coder is a type of convolution coder and that the packet data would be encoded with systematic bits and data bits to increase the redundancy of the coded data.

Regarding claims **52-53**, the claims rejected for the same reason as set forth in claim 6 above, wherein **Cameron** further discloses that the system encoder bypasses

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the data encoder when in a turbo mode (see Fig. 2 and [0091]). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to further incorporate Cameron's teaching to Lorang and Chadwick to utilize a bypass as claimed, for increasing the data transmission rate by not performing data coding/decoding processes (i.e, when the signal or channel quality is very good).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gaskill (US 5,440,559), Portable wireless communication device.

Hoff (US 5,168,271), Paging and time keeping system with transmission of time slot identification used for synchronization.

Jokinen (US 5,570,369), Reduction of power consumption in a mobile station.

Charlier et al (US 6,192,253), Wrist-carries radiotelephone.

Murayama et al (US 6,233,711), Turbo coding, decoding devices and Turbo coding, decoding methods.

5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(571) 273-8300 (for **formal** communications intended for entry)

(571)-273-7893 (for informal or **draft** communications).

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Hand-delivered responses should be brought to Customer Service Window,
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry concerning this communication or communications from the examiner
should be directed to Duc M. Nguyen whose telephone number is (571) 272-7893,
Monday-Thursday (9:00 AM - 5:00 PM).

Or to Doris To (Supervisor) whose telephone number is (571) 272-7629.

Duc M. Nguyen, P.E.

Feb 28, 2006

A handwritten signature in black ink, appearing to read 'Duc M. Nguyen', with a long horizontal flourish extending to the right.